

and having an immiscibility gap at a selected temperature range capable of forming separate phases,

establishing said separate phases of said composition within said immiscibility gap,

forming an emulsion of said composition while said composition is immiscible within said temperature range,

cleaning said articles by contacting the articles to be cleaned with said emulsion and,

removing both lipid and ionic fouling substances from said articles.

13. The process of Claim 12 including, said composition being azeotropic.

14. The process of Claim 12 including, said separate phases of said composition within said immiscibility gap being formed by heating said composition to a temperature within said temperature range.

15. The process of Claim 12 including,
forming said emulsion by agitation of said
composition while said composition is immiscible and
within said temperature range.

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16. The process of Claim 12 including,
said composition being azeotropic,
said separate phases of said composition within
said immiscibility gap being formed by heating said
composition to a temperature within said temperature
range.

17. The process of Claim 12 including,
said composition being azeotropic,
forming said emulsion by agitation of said
composition while said composition is immiscible and
within said temperature range.

18. The process of Claim 12 including,
said composition being azeotropic,
said separate phases of said composition within
said immiscibility gap being formed by heating said

composition to a temperature within said temperature range,

forming said emulsion by agitation of said composition while said composition is immiscible and within said temperature range.

19. The process of Claim 13 including,

said mixture being in a weight ratio of said additional component to water of 0.05-99.95 to 99.5-0.05.

20. The process as described in Claim 13 wherein said additional component of the active cleaning liquid is an organic component of the general formula



in which

- R^1 and R^3 each independently represents H; straight-chain or branched, saturated or unsaturated, C_1 - to C_{18} - alkyl groups, in which one or more nonadjacent $-CH_2-$ groups may be replaced by $-O-$; saturated or unsaturated cyclic C_1- to C_8- groups, in which one or more nonadjacent $-CH_2-$ groups may be replaced by $-O-$;

hydroxy; C₁- to C₈- alkoxy; amino, in which one or both hydrogen(s) may be replaced by C₁- to C₈- alkylgroups; and

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- X represents -O-; -C(=O)-; -C(=O)-O-; -NH-, -NR¹-
-N(OH)-; straight-chain or branched alkylene -C_n- to C₈-
groups in which one or more nonadjacent -CH₃- groups may
be replaced by -O- and n represents integers 1, 2, 3,
etc.

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21. The process of Claim 13 including,
said miscibility gap is in the range of 0°C to the
temperature of a phase transition.

22. The process of Claim 21 including,
said temperature range is 20°C to 110°C.

23. The process of Claim 19 including,
said weight ratio is 4.0-15.0 to 96.0-85.0.

24. The process of Claim 13 wherein,
said organic component is selected from the group
consisting of alcohols, glycols, amines, ethers, glycol
ethers, esters and ketones.

25. A process for cleaning articles in which an active cleaning liquid composition is brought into contact with articles to be cleaned, *the improvement comprising*

forming ~~said~~ active cleaning liquid composition *from* being a mixture of water and at least one additional component with molecules having hydrophilic and lipophilic groups and having an immiscibility gap at a selected temperature range capable of forming separate phases, cleaning said articles by contacting the articles to be cleaned with said cleaning liquid.

26. The process of Claim 25 including, said composition being azeotropic.

27. The process of Claim 25 including, establishing said separate phases of said composition within said immiscibility gap, said separate phases of said composition within said immiscibility gap being formed by heating said composition to a temperature within said temperature range.

28. The process of Claim 25 including,
forming an emulsion of said composition,
cleaning said articles by contacting the articles
to be cleaned with said emulsion,

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said forming of said emulsion being by agitation of
said composition while said composition is immiscible
and within said temperature range

~~Cleaning said articles by contacting the articles
to be cleaned with said emulsion.~~

29. The process of Claim 25 including,
establishing said separate phases of said
composition within said immiscibility gap,

said separate phases of said composition within
said immiscibility gap being formed by heating said
composition to a temperature within said temperature
range,

forming an emulsion of said composition,

said forming of said emulsion being by agitation of
said composition while said composition is immiscible
and within said temperature range,

cleaning said articles by contacting the articles to be cleaned with said emulsion.

30. The process of Claim 25 including,
establishing said separate phases of said composition within said immiscibility gap,

said separate phases of said composition within said immiscibility gap being formed by heating said composition to a temperature within said temperature range,

forming an emulsion of said composition,

said forming of said emulsion being by agitation of said composition while said composition is immiscible and within said temperature range,

cleaning said articles by contacting the articles to be cleaned with said emulsion, and

removing both lipid and ionic fouling substances from said articles.

31. An organic compound to be used in a mixture with water for cleaning articles, ^{the improvement comprising} said mixture having an immiscibility gap at a selected temperature range

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for cleaning said articles and capable of forming an emulsion by agitation within said temperature range for cleaning said articles and that upon contacting said articles both lipid and ionic fouling substances are removed from said articles, said compound having the general formula



in which

- R^1 and R^3 each independently represents H; straight-chain or branched, saturated or unsaturated, C_1 - to C_{18} - alkyl groups, in which one or more nonadjacent $-CH_2-$ groups may be replaced by $-O-$; saturated or unsaturated cyclic C_1 - to C_8 - groups, in which one or more nonadjacent $-CH_2-$ groups may be replaced by $-O-$; hydroxy; C_1 - to C_8 - alkoxy; amino, in which one or both hydrogen(s) may be replaced by C_1 - to C_8 - alkylgroups; and

- X represents $-O-$; $-C(=O)-$; $-C(=O)-O-$; $-NH-$, $-NR^1$; $-N(OH)-$; straight-chain or branched alkylene $-C_1-$ to C_8- groups in which one or more nonadjacent $-CH_3-$ groups may


be replaced by -0- and n represents integers 1, 2, 3,
etc.

32. The compound of Claim 31 wherein said mixture
is azeotropic and said emulsion is formed by agitation.

Remarks

Applicants herewith are adding new Claims 12-32
that are believed to fill out the spectrum of patent
protection merited.

Respectfully submitted,


Francis A. Keegan
Reg. No. 19,245

LALOS & KEEGAN
1146 Nineteenth Street, N.W.
Fifth Floor
Washington, D.C. 20036-3703

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